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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/731,866	12/08/2000	Katsuto Nagano	200083US0CONT	1107

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EXAMINER
YUN, JURIE

ART UNIT	PAPER NUMBER
2882	11

DATE MAILED: 08/23/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/731,866	NAGANO ET AL.	
	Examiner	Art Unit	
	Jurie Yun	2882	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *05 February 2002* .

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-5* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-5* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☒ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11)☐ The proposed drawing correction filed on _____ is: a)☐ approved b)☐ disapproved by the Examiner.

If approved, corrected drawings are required in reply to this Office action.

12)☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

13)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____ .

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

14)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).

a) ☐ The translation of the foreign language provisional application has been received.

15)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) *5&9* .
4) ☐ Interview Summary (PTO-413) Paper No(s). _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: .

DETAILED ACTION

Specification

1. The abstract of the disclosure is objected to because it contains more than 150 words. Correction is required. See MPEP § 608.01(b).

2. Claims 4 and 5 are objected to because of the following informalities: each of claims 4 and 5 repeats the words "Ni" and "Ni-Cr", which makes them redundant. Appropriate correction is required.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

4. Claims 1-5 are rejected under 35 U.S.C. 103(a) as being unpatentable over Epstein et al. (USPN 5,858,561) and further in view of Nomura et al. (USPN 5,335,139).

5. With respect to claim 1, Epstein et al. disclose an EL device having a structure in which a first electrode (Fig. 1, 18) formed according to a predetermined pattern, a first insulator layer (14), an electroluminescence-producing light emitting layer (12), a second insulator layer (16) and a second electrode layer (22) are successively stacked on an electrical insulating substrate (28).

Epstein et al. do not disclose at least one of the first insulator layer and the second insulator layer contains as a main component barium titanate and as subordinate components magnesium oxide, manganese oxide, yttrium oxide, at least

one oxide selected from barium oxide and calcium oxide, and silicon oxide, with ratios of magnesium oxide, manganese oxide, yttrium oxide, barium oxide, calcium oxide and silicon oxide with respect to 100 moles of barium titanate being:

MgO:	0.1 to 3 moles,
MnO:	0.05 to 1.0 mole,
Y_2O_3:	1 mole or less,
BaO + CaO:	2 to 12 moles, and
SiO_2:	2 to 12 moles,

as calculated on MgO, MnO, Y_2O_3, BaO, CaO, SiO_2 and $BaTiO_3$ bases, respectively.

Nomura et al. disclose this (Abstract). It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the Epstein et al. invention and disclose at least one of the first insulator layer and the second insulator layer contains the components given above, as taught by Nomura et al. As disclosed by Nomura et al. (column 1, lines 37-46), "When the dielectric material is subject to DC electric field, there arises another problem that its relative dielectric constant lowers with time. If thinner dielectric layers are used in order to provide chip capacitors of a smaller size and greater capacitance, application of DC voltage across the capacitor causes the dielectric layers to receive a more intense electric field, resulting in a more remarkable change of dielectric constant with time, that is, a more remarkable change of capacitance with time." This would benefit the insulator layer(s) in the Epstein et al. invention, since it uses DC voltage.

6. With respect to claim 2, Epstein et al. disclose the electrical insulating substrate (column 7, lines 18-26) and the first insulator layer (column 6, lines 24-27) are each formed of a ceramic material.

7. With respect to claim 3, Epstein et al. do not disclose BaO, CaO and SiO_2 in a form represented by $(Ba_xCa_{1-x}O)_y.SiO_2$ where $0.3 <= x <= 0.7$ and $0.95 <= y <= 1.05$ and in an amount of 1 to 10% by weight with respect to the sum of $BaTiO_3$, MgO, MnO and Y_2O_3. Nomura et al. disclose this (column 4, lines 11-35). It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the Epstein et al. invention and disclose BaO, CaO and SiO_2 in a form represented by $(Ba_xCa_{1-x}O)_y.SiO_2$ where $0.3 <= x <= 0.7$ and $0.95 <= y <= 1.05$ and in an amount of 1 to 10% by weight with respect to the sum of $BaTiO_3$, MgO, MnO and Y_2O_3, as taught by Nomura et al. As disclosed by Nomura et al. (column 4, lines 15-16), this would ensure the sintered body would be dense.

8. With respect to claims 4 and 5, Epstein et al. disclose the first electrode contains one or two or more of Ni, Ag, Au, Pd, Pt, Cu, Ni, W, Fe, and Co or any one of Ag-Pd, Ni-Mn, Ni-Cr, Ni-Cr, Ni-Co and Ni-Al alloys (column 6, lines 56+).

Conclusion

9. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Sugiura et al. (USPN 6,207,302 B1) disclose an electroluminescent device. Park et al. (USPN 6,185,087 B1) disclose dielectric layer materials. Mizuno et al. (USPN 6,051,516) disclose a dielectric ceramic composition

and monolithic ceramic capacitor. Harada et al. (USPN 6,008,981) disclose a monolithic ceramic capacitor.

10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jurie Yun whose telephone number is 703 308-3535. The examiner can normally be reached on Monday-Friday 8:30-5:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Robert H. Kim can be reached on 703 305-3492. The fax phone numbers for the organization where this application or proceeding is assigned are 703 308-7722 for regular communications and 703 308-7722 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703 308-0956.

Jurie Yun
August 15, 2002

ROBERT H. KIM
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2800